UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,401	11/17/2003	Iain B. Findleton	16764-1US CMB/ad	2045

20988 7590 01/17/2008		EXAMINER
OGILVY RENAULT LLP		WALSH, JOHN B
1981 MCGILL COLLEGE AVENUE		
SUITE 1600	ART UNIT	PAPER NUMBER
MONTREAL, QC H3A2Y3		
CANADA	2151	

MAIL DATE	DELIVERY MODE
01/17/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/714,401	FINDLETON ET AL.
	Examiner	Art Unit	
	John B. Walsh	2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 December 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-3 and 5-15 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S.

Patent No. 6,321,236 to Zollinger et al.

As concerns claim 1, a method for executing a common task in a clustered computing

environment comprising a plurality of computers interconnected to collaborate on said common

task, said plurality of computers including at least a client computer (48) and a shared storage

medium storing data elements, said shared storage medium maintaining a main list of data

version information associated with said data elements, said method comprising: said client

computer (48) maintaining a locally-stored list (figure 1-database of 48) containing previously

retrieved data elements associated with their data version; said client computer reading from

said locally-stored list data version associated with said data element and sending a request

(figure 6-96) over a data network (figure 1) including said data version (figure 6-102) to said

shared medium; matching said data version received from said client computer with said data

version associated with said data element from said main list on said shared storage medium,

said matching comprising one of:

said shared storage medium sending to said client computer a new copy (fig. 7-116) of said data element and a new data version (figure 6-106,110) when said data version received from said client computer is one of non-identical to said main-list data version associated with said data element and identical to a null-value data version, and, said client computer updating said locally-stored list with said new copy of said data element and said new data version (figure 7-116);said shared storage medium sending to said client computer confirmation that said locally-stored data element associated with said data version is valid when said data version received from said client computer is identical to said main list data version associated with said data element (col. 3, line 53-60; client copy current since identical to server copy no update); after said matching at least one of said plurality of computers modifying said data element stored on said shared storage medium (figure 5) and said client computer using said retrieved data element to execute said common task (figure 5); whereby transfer of copies of data elements between said shared storage medium and said plurality of computers is reduced and an amount of network load needed to retrieve data elements from said shared storage medium is reduced.

As concerns claim 2, the method as claimed in claim 1, wherein said client sending said data version to said shared medium comprises sending a null-value data version (column 9, line 63) in the case in which said data element is not stored in said client memory and said shared medium.

As concerns claim 3, the method as claimed in claim 1, wherein said request for said data element contains an address range (inherent stored data will have an address range) defining said data element on said shared medium.

As concerns claim 5, the method as claimed in claim 1, wherein said client computer communicates with said shared medium through a network block device driver (column 5, lines 13-15;column 5, lines 30-35).

As concerns claim 6, the method as claimed in claim 1, wherein said shared medium is a server memory storage space (figure 1-68).

As concerns claims 7 and 11, a method for managing data version information associated with data elements on a shared storage medium in a clustered computing environment, said data version information being used for data retrieval by a plurality of computers interconnected in said clustered computing environment, comprising: creating a list of data structures (figure 1-database of 48) identifying data elements on said shared storage medium and said data version information (figure 4); receiving a request (figure 6-96) from a client computer (48) on a data network from at least one of said plurality of computers for writing at least one of said data elements; matching said data version associated with said at least one data element from a locally-stored list on said client computer (fig. 1) with said data version associated with said at least one data element from said main list (fig. 1) on said shared storage medium, said matching comprising one of: sending to said client computer a new copy (fig. 7-116) of said at least one data element and a new data version (figure 6-106,110) when said data version from said locally-stored list is one non-identical to said main list data version associated with said at least one data element and identical to a null-value data version (fig. 5; fig 6-106,110), and sending to said client computer a confirmation that said locally-stored at least one data element associated with said data version is valid when said data version from said locally-stored list is identical to said data version associated with said at least one data element from said main list

(col. 3, line 53-60; client copy current since identical to server copy no update); and after said matching, following modifications to said at least one of said data elements, giving a new data version (figure 4; figure 6; figure 7) to said at least one of said data elements that was modified.

As concerns claims 8 and 12, wherein if said data elements being modified are associated with multiple separate data structures containing data version information, creating a new single data structure in said list associated with said data elements modified and removing said multiple separate data structures from said list (figure 5; 92).

As concerns claims 9 and 13, wherein said initial version state is an initial version number (figure 4) and wherein said initial version number is incremented (figure 4) to obtain said new version state.

As concerns claims 10 and 14, wherein said list of data structures is a double linked binary tree list (column 9, lines 30-32).

As concerns claim 15, creating a list of data structures identifying data elements (col. 1, lines 25-42) on said shared medium and said data version information (fig. 1, 26, 42; fig. 4; fig. 7, 116-current version); receiving a request on a data network for writing at least one of said data elements (data elements in table); ensuring a consistency between said data version associated with said at least one data element from a locally-stored list on a client computer (fig. 1; 48) with said data version associated with said at least one data element from said main list (28,20), said ensuring comprising updating (fig. 6, 98, 94; 106; fig. 7, 116) said locally-stored list with said data version and said data element from said main list when said data version from said locally-stored list is one of: non-identical to said data version from said main list and identical to a null-value data; after said ensuring of said consistency, completing said request for

writing to said at least one element, giving a new data version to said at least one data element

that is modified (fig. 5).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No.

6,321,236 to Zollinger et al. as applied above in view of U.S. Patent No. 5,574,953 to Rust et al.

Zollinger et al. '236 do not explicitly disclose wherein said address range comprises non-

contiguous storage blocks.

Rust et al. '953 teach storing data in non-contiguous storage (abstract).

It would have been obvious to one having ordinary skill in the art at the time of the

invention to provide storing data in non-contiguous storage, as taught by Rust et al. '953, in

order to provide the expected result of a means of storing data in a fragmented storage medium.

Response to Arguments

5.   Applicant's arguments filed December 17, 2007 have been fully considered but they are

not persuasive.

The applicant argues Zollinger et al. do not suggest "matching said data version received from said client computer with said data version associated with said data element from said main list on said shared storage medium" as recited in claim 1.

The claims have been given the broadest reasonable interpretation and the argued limitation has been addressed as being disclosed by Zollinger et al. as indicated in the rejection above. Zollinger et al. discloses this feature at least at Figures 5 and 6 for matching data versions between the client and shared storage medium. The databases/tables comprise data elements and a change in a data element will result in a change in the database/table and its version.
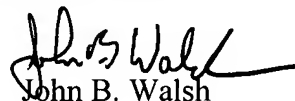
Conclusion

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to John B. Walsh whose telephone number is 571-272-7063. The

examiner can normally be reached on Monday-Thursday from 7:00-5:30.

       If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Follansbee can be reached on 571-272-3964. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

       Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John B. Walsh
Primary Examiner
Art Unit 2151